

LIV.—*On Ophiodes, a new Genus of Hydroida.*
By the Rev. THOMAS HINCKS, B.A.

[Plate XIV.]

WHILE dredging this autumn in Swanage Bay, on the coast of Dorset, I have obtained a new Sertularian Hydroid, which offers some very interesting peculiarities. Of these the most remarkable is the presence of an organ which takes the place of the nematophore, but is unique in appearance and structure. The polypite, too, differs in form from that of any other Hydroid with which I am acquainted, and is furnished with webbed tentacles—a character which has only been noticed hitherto among the *Campanularida*.

This very curious Zoophyte must be referred to a new genus, to which I shall assign the name *Ophiodes*. It may be thus characterized:—

Subkingdom *CŒLEENTERATA*.

Class *HYDROZOA*.

Order *HYDROIDA*.

Suborder *SERTULARIDA*.

Family *Halecidæ*.

*OPHIODES**, nov. gen.

Hydrocaulus simple or branched, rooted by a creeping stolon. *Hydrothecæ* vase-shaped, terminal; *polypites* not retractile within the calycle; the body deeply constricted a little below the base of the tentacles; tentacles in a single verticil, muricate, webbed for about a quarter of their length, and surrounding a conical proboscis; *tentaculoid organs* borne singly on the hydrocaulus (near the calycles) and on the stolon, highly extensile, protected at the base by a small chitinous cup, and terminated at the upper extremity by an enlarged capitulum, armed with thread-cells. Reproduction unknown.

The remarkable tentacular organ with which the *Ophiodes* is furnished, and which may be regarded as the equivalent of the nematophore, consists of a very extensile, snake-like appendage, with an enlarged head, attached at the lower extremity by an extension of the cœnosarc. The base is protected by a small chitinous tube, which expands from its point of origin upwards, and answers to the theca of the ordinary nematophore. The capitulum contains numerous thread-cells, from which a barbed sheath and a very long thread are emitted.

* Der. *ὄφιωδής*, snake-bearer.

These organs are capable of great elongation and contraction, and execute the most vigorous movements, stretching themselves out with apparent eagerness, and twisting in all directions. My attention was first drawn to the zoophyte by a number of them, disposed on the creeping stolon, which were in a state of most lively excitement, and manifesting a large amount of muscular energy.

One of these organs is almost always attached to the hydrocaulus a little below the calycle, and when in a state of extension it rises above it; and as it twists itself about, with its formidable armature ready for instant action, it has all the appearance of a purveyor to the polypite. Many of them are also distributed upon the hydrorhiza.

A striking feature of the genus *Ophiodes* is the constriction of the body of the polypite, dividing it into two well-marked regions—the *oral*, including the mouth and the tentacular circle and a kind of quasi pharynx, and the *aboral*, traversed by the digestive cavity.

The polypite does not extend to the bottom of the hydrotheca, but rests on a membranous diaphragm that shuts off the upper third of it and forms a cup-shaped chamber. This diaphragm is perforated in the centre, and through the orifice the body is linked on to the cœnosarc, that traverses the lower portion of the calycle.

O. mirabilis, n. sp.

Hydrocaulus erect, slightly branched, rudely annulated at the base, and jointed at intervals throughout. *Hydrothecæ* in the form of a vase, bulging slightly immediately above the base; the sides incurved, expanding gradually towards the top, with an everted rim; a single *tentaculoid organ* on the stem a little below the calycle, and many distributed on the stolon; *polypites* tall, the inferior portion of the body clavate, the oral funnel-shaped; tentacles about fifteen, a brownish cluster of thread-cells between each pair on the connecting web. Reproductive organs unknown.

Height about $\frac{1}{10}$ of an inch.

The branching of the *Ophiodes mirabilis*, as I have seen it, is of the simplest kind, usually consisting of a single division of the stem. It may possibly attain a more luxuriant growth; but I have examined a considerable number of specimens, and have always found it to be either simple or furnished with one or two short branches.

The polypite, when fully extended, is a singularly beautiful object, imitating to some extent the form of a tall and graceful candelabrum. Only the base of the body is within the calycle.

Immediately below the constriction there is a slight tinge of yellowish colouring.

The web that unites the lower portions of the tentacles forms a rather deep cup round the proboscis, and is coloured by the batteries of thread-cells that occur between each pair of arms. These intertentacular thread-cells are similar to those which thickly cover the capitulum of the snake-like organs. They emit a very long thread, with a barbed sheath at its base. These slender filaments may be seen cast forth beyond the tentacles, and intermingling with them, and must constitute an effective auxiliary force for the capture of prey. The arms are held alternately elevated and depressed.

The chitinous tube that encloses the base of the tentaculoid appendages is small and somewhat trumpet-shaped.

The *Ophiodes*, it will be seen, combines a large number of interesting characters; and one or two of its most striking features are unique. It presents a really remarkable array of curious structures—the distinct funnel-shaped head crowning the tapering body, and itself crowned by the tentacular verticil with its battery of thread-cells at every embrasure, the elegant calycle, the strange snake-like organ near it, either resting motionless and sentinel-like or twisting vehemently about, bristling above at times with barbs, and casting abroad its fatal threads, and the number of similar organs below, twirling themselves about in the maddest fashion, as if to scare away any invaders.

Hab. On weed, dredged in shallow water (5–8 fathoms), Swanage Bay, Dorset. Not uncommon.

EXPLANATION OF PLATE XIV.

Figs. 1 & 2. *Ophiodes mirabilis*, Hincks, highly magnified.

Fig. 3. One of the tentaculoid organs.

Fig. 4. A portion of the tentacular circle, showing the connecting web with its clusters of thread-cells.

Fig. 5. A calycle, showing the cup-shaped chamber which encloses the base of the polypite.

BIBLIOGRAPHICAL NOTICE.

Annuario della Società dei Naturalisti in Modena. Anno I. Modena, Maggio 1866. 8vo, pp. 152, with 8 plates.

THE political development of Italy is attended by a gradual and steady progress of science. Scientific publications have been until lately comparatively few in number; and such as have appeared have been more or less marked by some irregularity in the manner of their